

ALLOTMENT MANAGEMENT PLAN

BELLEMONT ALLOTMENT

WILLIAMS RANGER DISTRICT – KAIBAB NATIONAL FOREST

Prepared By: Clare Hydock Date 2-26-08
Clare Hydock, Rangeland Management Specialist
Williams and Tusayan Ranger Districts

Agreed to
and Reviewed By: Rex Maughan Date 3/4/08
Rex Maughan, Bellemont Allotment Permittee

Approved By: Martie Schramm Date 3/20/08
Martie Schramm
District Ranger, Williams Ranger District

1. INTRODUCTION

This Allotment Management Plan was developed following a decision on the Environmental Assessment for Bellemont, Chalender, and Government Prairie Grazing Allotments, signed by Martie Schramm, Williams District Ranger, on September 28, 2007.

The Bellemont Allotment is located near the community of Parks on the Williams Ranger District of the Kaibab National Forest. The allotment covers approximately 10,400 acres of Forest Service lands and includes the northern portion of Garland Prairie and Horse Hill. Camp Navajo is located adjacent to the Bellemont Allotment to the east. Adjacent allotments include Chalender to the west, Big Springs to the south and Garland Prairie to the southeast. The rural subdivision of Pine Aire Estates is located on the west side of the allotment.

2. BACKGROUND

The Bellemont Allotment was managed as a sheep allotment prior to 1982 when it was converted to cattle. The current permit for the Bellemont Allotment authorizes a maximum of 285 adult cattle and 1,905 Animal Unit Months (AUMs). Permitted grazing period is from June 15 to November 15 (154 days). The allotment is divided into 8 grazing pastures using a 7-pasture rest-rotation system (two pastures are managed together as one unit). Current management results in livestock grazing from 20-40 days in each pasture. Between 1996 and 2006, actual use ranged from 70 to 285 cattle, with the allotment fully stocked (actual AUMs equal to permitted AUMs) in 5 of those 11 years.

Table 1. Bellemont Allotment; Pastures and Acres

Pasture	USFS Acres		Average Grazing Period - Days
Dutch Kid & Grey (managed together)	713 762	1,475 total	27
East Volunteer	1,562		27
Horse Hill	1,967		26
North Allen	1,140		25
Ryberg	593		21
South Allen	1,816		37
West Volunteer	1,726		27
Allotment Total	10,278		154 Days Permitted

Vegetation: The Bellemont Allotment contains approximately 6,205 acres of grassland (primarily in Garland Prairie), approximately 2,431 acres of ponderosa pine, and approximately 1,642 acres of ponderosa pine-Gambel oak vegetation types.

Average vegetation condition score was 38 (Poor) in 1985, 30 (Poor) in 2003 and 38 (Poor) in 2005/2006. Monitoring data indicates that cool season grasses such as Arizona fescue and bottlebrush squirreltail declined in the last 20 years, while blue grama, a warm season grass, increased. Currently, only scattered, small populations of noxious weeds occur in the allotment, primarily Dalmatian toadflax and bull thistle. The Garland Prairie Research Natural Area is located adjacent to but excluded from the allotment on the north side.

Soils and Watershed: The allotment is dominated by grassland and savannah soil types (Mollisol soil order or mollic subgroups). Average soil condition score increased from 43 (Fair) in 1985 to 55 (Fair) in 2005/2006. Average bare soil declined (an improvement) from 42% in 1985 to 34% in 2003 and 31% in 2005/2006. There are ephemeral stream channels within the allotment, but no perennial streams. The southern boundary of the allotment overlaps the northern edge of Horse Lake, which is a natural depression that has been modified to help hold water. It holds water occasionally but does not have wetland soils or vegetation. Two ephemeral stream channels located within the allotment feed into Scholz Lake, which is located just outside the allotment boundary on the west side.

Wildlife: The Bellemont Allotment provides habitat for a wide variety of grassland and forest wildlife species. Garland Prairie provides important habitat for pronghorn. This pronghorn herd typically breeds and spends most of the spring, summer, and fall in Garland Prairie and migrates west to lower elevations south of Ash Fork during the winter, depending on snow and weather conditions. Garland Prairie is considered very good pronghorn habitat by Arizona Game and Fish Department personnel, and state data indicate that pronghorn recruitment (fawns/100 does) increased by 100% between 2001 and 2005 in Game Management Unit 8, compared to a 32% increase statewide during those years (Arizona Game and Fish Department 2006). A large percentage of total fawning habitat in Game Management Unit 8 occurs in Garland Prairie. Fences have previously been modified within the Bellemont Allotment to facilitate pronghorn movements. Other grassland/savannah-associated wildlife species known to occur in Garland Prairie include northern harrier, horned lark, vesper sparrow, lark sparrow, Savannah sparrow, and Gunnison's prairie dog.

A known goshawk nest area (cluster of past nest sites) is located within the allotment. Pine-oak habitat classified as Mexican spotted owl Restricted Habitat occurs on the east and west sides of the allotment, and spotted owl Critical Habitat unit UGM-13 overlaps the southwest 1/4 of the Horse Hill Pasture. Spotted owls are not known to occur in or near the allotment, and the nearest spotted owl Protected Activity Center (PAC) is approximately 4 miles to the south in Sycamore Canyon.

3. DESIRED CONDITIONS

The overall desired condition is maintenance of sustainable ecosystems within and surrounding the Bellemont Allotment in which livestock grazing does not impair important ecosystem functions, such as providing habitat to support abundant wildlife populations and maintain biodiversity, providing high-quality water resources, maintaining soil stability and productivity, and maintaining vegetation diversity and productivity.

Specific desired conditions that apply to the Bellemont Allotment include the following:

Vegetation

- Maintain a stable to upward trend in total plant cover and range condition.
- Provide for a diversity of cool and warm season plants and maintain a stable to upward trend in cool season grasses.
- Protect Threatened, Endangered, and Sensitive plant species from adverse effects caused by livestock grazing and grazing management activities.
- Eradicate or control as many existing populations of noxious weeds as possible and prevent new introductions of noxious weeds caused by livestock management activities.

Soils and Watershed

- Minimize erosion caused by livestock grazing and grazing management activities by maintaining a stable to upward trend in soil condition and maintaining or reducing percent bare ground across each allotment.
- Protect watershed resources such as ephemeral lakes and ephemeral stream channels and downstream water bodies from adverse effects caused by livestock grazing and grazing management activities.

Wildlife

- Maintain sufficient levels of cover and forage throughout and at the end of the grazing period to support abundant wildlife populations.
- Protect Threatened, Endangered, and Sensitive wildlife species from adverse effects caused by livestock grazing and grazing management activities.

Recreation and Heritage

- Manage livestock grazing to minimize adverse effects on recreation activities and developments.
- Protect heritage resources from adverse effects caused by livestock grazing and grazing management activities.

4. MANAGEMENT STRATEGY

Livestock grazing is authorized on the Bellemont Allotment under the terms and management prescriptions described below:

- Permitted livestock will remain at 285 adult cattle with a grazing period from June 15 through November 15 (154 days); a maximum of 1,905 AUM's. The delayed on-date is designed to promote greater development of cool season grasses during spring.
- Stays in each pasture may be reduced as cattle rotate through each pasture quicker.
- The grazing rotation will maintain resting one pasture per year, and will consider resting one pasture two years in a row, or resting 2 pastures every year.
- One new roadside pit tank would be constructed in the Horse Hill Pasture to help improve livestock distribution. The proposed pit tank site is not located in a drainage, wetland, or on highly erodible soils.

5. RESOURCE PROTECTION MEASURES –The Annual Operating Instructions will incorporate specific and/or additional measures as needed per the adaptive management strategy.

1. Manage grazing intensity to not exceed **Moderate Use** category during the growing season, and to not exceed **Conservative Use** category at or near the end of the growing season when the potential for plant regrowth is limited.

The average growing season for the Williams Districts is:

March 15 - August 30: early to middle part of growing season; adequate re-growth is possible* after grazing. * *Adequate re-growth is not guaranteed during drought years.*

September 1 – November 15: end of growing season; not enough time for adequate re-growth after grazing

November 16 – March 14: dormant season; minimal to no growth

Moderate Grazing Intensity:

- Approximately equal to a maximum of 50% Utilization (grazing and trampling) of forage standing crop (current and previous years' growth) at the end of the growing season (November 15).
- Most of the accessible range shows some use.
- Areas between 1 mile to 1 ½ miles from water show some use.
- There is little evidence of livestock trailing to forage.
- Good forage plants have some seed stalks left (15-25% of stalks remain).
- About ½ to 2/3 of the good forage plants show some use.
- Some young plants show damage.
- Less than 10% of the poor forage plants are utilized.

Conservative Grazing Intensity:

- Approximately equal to a maximum of 40% Utilization (grazing and trampling) of forage standing crop (current and previous years' growth) at the end of the growing season (November 15).
- Rangeland may be topped, skimmed, or grazed in patches.
- Areas greater than 1 mile from water show little use.
- There is no evidence of livestock trailing to forage.
- Good forage plants have abundant seed stalks (60-80% of stalks remain).
- 1/3 to 1/2 of good forage plants have been grazed in key areas.
- Most young plants are not damaged.
- Poor forage plants are not grazed at all.

These grazing intensity categories can be exceeded in limited areas where livestock concentrate: a) within 1/4 mile of water developments (including temporary water hauls) and salt and supplement stations; and b) within 1/10 mile of pasture gates.

2) Consider a variety of factors related to drought when making decisions on annual authorization of livestock numbers and grazing period, including:

- amount and timing of current-year and previous-year precipitation received at weather stations nearest to each allotment,
- current-year and previous-year forage production as they contribute to current standing forage, c) estimates of current-year and previous-year grazing intensity,
- current and projected amount and distribution of water available to livestock (Howery 1999, Forest Service 2006).

3) Permittees must distribute livestock throughout the suitable grazing areas of each pasture using appropriate methods, including placement of salt and supplements, water hauling, or herding.

4) Livestock will not be allowed to graze at ephemeral wetland sites when soils are wet. Soils will be considered wet for 10 days following disappearance of standing water. At that time, soils will be assessed for saturation and range readiness.

5) Follow applicable Best Management Practices for range management from the *Soil and Water Conservation Practices Handbook* (Forest Service Handbook 2509.22) to minimize soil and watershed impacts caused by livestock grazing and grazing management activities. The following are the primary practices for this allotment:

- Monitor ground conditions before and during any future construction activities to avoid wet ground conditions that can negatively affect soil condition and water quality.
- Grazing systems are alternatively rested and grazed in a planned sequence.
- Grazing at a level that will maintain enough cover to protect the soils and maintain or improve the quantity and quality of desired vegetation. This practice will be applied through the utilization guidelines.
- Fencing to improve cattle management, control access, prevent soil loss, and improve water quality. Fencing was not designed to prevent soil loss and improve water quality.

6) Follow applicable direction in the *Final Environmental Impact Statement for Integrated Treatment of Noxious or Invasive Weeds* to minimize the risk of new weed infestations caused by livestock grazing and grazing management activities. Relevant direction includes:

- Consider weed prevention and control practices in the management of grazing allotments;
- Minimize transport of weed seed into and within allotments;
- Maintain healthy, desirable vegetation that is resistant to weed establishment;
- Minimize ground disturbance;
- Promote weed awareness and prevention efforts among range permittees.

6. MONITORING

The Forest Service and/or permittees will monitor grazing intensity in each grazed pasture at least once a year. Multiple key areas have been designated on maps and in GIS within the allotment, and additional key areas may be designated. In addition to key areas, grazing intensity will be monitored in forested areas, including Mexican spotted owl Critical Habitat.

Various methods will be used to evaluate grazing intensity, including one or more of the following (and/or new methods as they become available): determination of forage utilization, amount of forage standing crop remaining at the end of the grazing cycle, percentages of grazed and ungrazed plants, plant stubble heights, litter or carryover vegetation from previous years, and visual appearance (Holechek and Galt 2000, Holechek and Galt 2004, Holechek et al. 2004: pages 195-196 and 248-251).

In addition to implementation monitoring conducted by the Forest Service, permittees would be required to monitor grazing intensity in each pasture and avoid exceeding grazing intensity levels specified above in Resource Protection Measures #1. Coordination between the permittee and the Forest Service will be encouraged to help the permittee accurately determine grazing intensity. In addition, permittees would provide the Forest Service with actual use records for each pasture at the end of each grazing season, including 1) number, class, and type of animal; 2) grazing period; and 3) estimate of average grazing intensity at key areas on departure from pasture.

Effectiveness monitoring determines whether management practices are effective in moving the allotment toward desired conditions. Effectiveness monitoring is designed to determine the trend toward or away from desired conditions for vegetation resources, soil and watershed resources, and wildlife resources.

Range condition and trend monitoring will be conducted on the allotment using Parker Three-Step clusters, Pace Frequency transects, and Paced transects. Parker Three-Step clusters and Pace Frequency transects will be read approximately every 10 years. Paced transects will be read at approximately 5 year intervals.

7. GRAZING CAPABILITY AND GRAZING CAPACITY

An analysis of grazing capability and grazing capacity was conducted in 2007. See Tables 2 and 3 for Capacity Classification by TES Map Units and Acres, respectively, on this allotment.

Grazing capability of a land area is dependent upon the interrelationship of the soils, topography, plants and animals. Grazing capability is expressed as one of three capacity classes:

Full Capacity (FC) – areas that can be used by grazing animals under proper management without long-term damage to the soil or vegetative resource. They must also produce a minimum of 100 pounds per acre of forage and are on slopes less than 40 percent.

Potential Capacity (PC) – areas that could be used by grazing animals under proper management but where soil stability is impaired, or range improvements are not adequate under existing conditions to obtain necessary grazing animal distribution. Grazing capacity may be assigned to these areas, but conservative allowable use assignments must be made.

No Capacity (NC) – areas that cannot be used by animals without long-term damage to the soil resource or plant community, or are barren or unproductive naturally. In addition, it includes areas that produce less than 100 pounds per acre of forage and/or are on slopes greater than 40 percent. Grazing capacity is not assigned to sites with a “no capacity” classification.

Table 2. Grazing Capacity Classification by TES Map Unit

	TES Map Unit
Full Capacity	006, 037, 401, 513, 518, 519, 537, 630, 631
Potential Capacity	402, 525
No Capacity	none

Table 3. Grazing Capacity Acres on Bellemont Allotment

	Bellemont Allotment
Full Capacity	9,877
Potential Capacity	400
No Capacity	0

Grazing capacity is a function of grazing capability, forage production, proper use by livestock, and the level of management that may be applied. This analysis used forage production and grazing capability to determine the estimated grazing capacity for the allotment. Forage production measurements and estimates were taken and production data from the Terrestrial Ecosystem Survey (TES) was used for any data gaps. An allowable use standard of 40 percent was used on the Full Capacity acres. An allowable use standard of 20 percent was used for all Potential Capacity acres. Areas classified as No Capacity were not considered in the estimate of grazing capacity.

This analysis revealed that under new management, permitted livestock will utilize:

- 82% of the estimated grazing capacity on the Bellemont Allotment.

In terms of total estimated forage production, permitted livestock will utilize:

- 32% of the estimated forage produced on the Bellemont Allotment.

Table 4. Grazing Capacity for the Bellemont Allotment

Bellemont Allotment	Previous Management – 170 Days	New Management – 154 Days
A) Forage Required by Permitted Livestock	1,682,400 pounds (2,103 AUM's)	1,524,000 pounds (1,905 AUM's)
B) Estimated Grazing Capacity (FC and PC acres only with established utilization standards)	1,864,978 pounds (2,331 AUM's)	1,864,978 pounds (2,331 AUM's)
C) Total Estimated Allotment Forage Production (FC, PC and NC acres)	4,710,363 pounds (5,888 AUM's)	4,710,363 pounds (5,888 AUM's)
D) Forage required by permitted livestock as a percentage of the Estimated Grazing Capacity (A÷B)	90%	82%
E) Forage required by permitted livestock as a percentage of the Total Estimated Allotment Forage Production (A÷C)	36%	32%

8. RANGE IMPROVEMENTS

1) Existing Structures

Range improvements (fencing, waters, handling facilities, etc.) are critical components of any grazing management plan. All range improvements assigned to the permittee (Improvement Maintenance Responsibilities, page 13) need to be maintained in order to facilitate proper management of the allotment.

Permittees are required to follow the District's Heavy Equipment Policy prior to beginning any ground disturbing activities which may require an archaeological survey and/or wildlife clearances.

No heavy equipment use will be authorized until:

- a) We receive your request for heavy equipment use in writing;
- b) Your request includes the name of the improvement to be worked on, their range improvement number, and/or a legal description, and/or include a map of the improvement;
- c) It includes a detailed description of the work to be done;
- d) Your request includes a timeframe for completion, an original signature and date;
- e) No work will begin until we get necessary clearances (archaeology, wildlife, NEPA, etc), and provide you with a written authorization for the work, including an agreement to the extent of work.
- f) The Forest Service will provide you with a list of certified Archaeologists and NEPA consultants that you may wish to use to expedite the process.

As you may know, our staff may not be able to respond to your requests in a timeframe that meets your needs, so the earlier you can get them in the better. Our preference would be to get that list from you no later than at your annual validation meeting in the spring. Better yet would be in the fall so that we can budget days for the various resource specialists in the new fiscal year.

2) New Construction

One new roadside pit tank will be constructed in the Horse Hill Pasture to help improve livestock distribution.

9. MITIGATION MEASURES

The following mitigation measures apply to the Bellemont Allotment.

Mexican Spotted Owl

- Pine-oak forest considered Mexican spotted owl Restricted Habitat occurs in the Bellemont Allotment, as does Mexican spotted owl Critical Habitat.
- Use of heavy equipment for the construction of the pit tank in the Bellemont Allotment would occur outside of spotted owl breeding season (after August 31 and before March 1).

Rare Plants

- Surveys for rare plants (plant species listed under the Endangered Species Act and Forest Service Sensitive plant species) would be completed before construction of the pit tank. If rare plant species are found, appropriate action would be taken to avoid or mitigate negative effects (e.g., moving the location of the pit tank).

Heritage Resources

- Activities associated with allotment improvements would be managed to ensure no adverse effects to heritage resources. Before initiating construction activities for pit tanks, the South Zone Archaeologist would be notified to ensure the proposed activities have heritage resource clearance prior to implementation.
- Livestock management practices that concentrate cattle, such as placement of salt and construction of water developments, would be located so that there are no effects to heritage resources.
- Should any unrecorded prehistoric or historic archaeological sites be encountered within these allotments, they should be reported to the South Zone Archaeologist.
- Rock shelters considered archeological sites within these allotments would be monitored. If cattle are using these sites for shelter and impacting the site, the shelter should be excluded from future livestock grazing.
- Should any tribes identify any plants within the allotments having traditional importance, rangeland specialists and South Kaibab heritage staff would work together to ensure that grazing management is allowing for natural regeneration of such plants.

10. FLEXIBILITY/ADAPTIVE MANAGEMENT

It is imperative that flexibility and adaptive management be considered when following this allotment management plan. Adjustments to the grazing sequence may be necessary due to weather constraints (i.e. precipitation patterns favor or do not favor certain portions of the allotment), or management activities in an allotment or pasture (P/J treatment or prescribed burning).

There may also be a need to vary livestock numbers to meet objectives. Drought may force the reduction of livestock numbers while on the other hand additional numbers above term permit may be appropriate in certain situations.

11. PASTURE PLAN

Proposed Bellemont Allotment Grazing Schedule Season of Use 6/15 to 11/15 (154 Days)										
Option 1 - Rest 2 Pastures per Year										
Pasture	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Horse Hill	0	30	30	0	35	35	20	0	30	25
Dutch Kid/Grey	25	0	30	30	30	25	0	0	40	30
Ryberg	24	24	0	20	20	22	0	25	20	20
South Allen	40	0	35	40	0	36	34	30	0	40
North Allen	0	40	35	36	0	36	34	32	0	39
West Volunteer	35	30	0	28	34	0	33	34	33	0
East Volunteer	30	30	24	0	35	0	33	33	31	0
Total Days Grazed	154	154	154	154	154	154	154	154	154	154
Option 2 - Rest 1 Pasture 2 Years in a Row										
Pasture	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Horse Hill	0	0	25	25	25	25	30	32	0	0
Dutch Kid/Grey	25	25	25	25	25	25	0	0	32	32
Ryberg	25	25	20	20	20	20	22	22	22	22
South Allen	29	29	0	0	40	40	33	30	25	30
North Allen	25	25	34	31	0	0	25	25	30	20
West Volunteer	25	25	25	30	24	24	24	23	25	30
East Volunteer	25	25	25	23	20	20	20	22	20	20
Total Days Grazed	154	154	154	154	154	154	154	154	154	154
Option 3 - Rest 1 Pasture Every Year										
Pasture	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Horse Hill	0	25	20	25	25	25	25	0	25	22
Dutch Kid/Grey	25	0	25	25	25	25	25	25	0	32
Ryberg	25	25	0	20	20	20	22	22	25	0
South Allen	29	29	25	0	40	39	33	31	25	30
North Allen	25	25	34	31	0	25	25	28	29	20
West Volunteer	25	25	25	30	24	0	24	25	30	30
East Volunteer	25	25	25	23	20	20	0	23	20	20
Total Days Grazed	154	154	154	154	154	154	154	154	154	154

Improvement Maintenance Responsibilities for Bellemont Allotment Permittee		
Improvement Name	Improvement Number	Units in Place
Bellemont/Garland Prairie Fence	2109	3.0
Great Dane Tank	2110	1.0
Volunteer Tank	2111	1.0
Garland Prairie Tank	2112	1.0
Garland Prairie Tank Waterlot	2112A	0.5
Allen Tank	2113	1.0
Toy Tank	2114	1.0
Dutch Kid Tank	2115	1.0
Dutch Kid Tank Waterlot	2115A	1.0
Ramon Tank	2206	1.0
Allen Tank Waterlot	2224	0.2
Bellemont Division Fence	2225	2.4
Ryberg Division Fence	2226	0.6
Scholtz Division Fence	2227	0.3
Dikker Division Fence	2228	1.7
Grey/Allen Division Fence	2273	1.7
Bellemont/Big Springs Fence	2274	0.7
Santa Fe Tank	2278	1.0
Ryberg Fence	2291	2.8
Horse Hill Fence	2292	2.0
Ryberg Tank	2297-1	1.0
Ryberg Tank	2297-2	1.0
Horse Lake Tank	2298	3.3
Bellemont/Garland Prairie Boundary	2300	1.0
Gar Tank	2359	1.2
Allen Division Fence	2371	1.0
Duck Tank	2372	1.2
Dutch Kid Division Fence	2376	1.0
Horse Lake Waterlot	2390	1.0
Volunteer Division Fence	2410	2.3
Great Dane Tank Waterlot	2412	0.5
Mustang Tank	2434	1.0

